PARCC

PARCC TECHNOLOGY AND INTEROPERABILITY STANDARDS
DRAFT V 1.0

Prepared by the PARCC Technology Committee
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Purpose:

Flexibility to interchange data between components inside and outside of the assessment system across diverse networks is a key requirement of the PARCC Assessment System. *Interoperability*, the principle of using standardized data formats and data transport protocols to promote the effective exchange and utilization of data between two or more systems or system components, is a core design principle for PARCC technology development and operations, and is enabled by the adoption and application of sets of industry recognized open standards to which PARCC Assessment components must conform. PARCC is committed to the adoption of open technology interoperability standards in order to make assessment items portable across organizations, systems and States.

Reference Documents:

The following guidelines for technology and interoperability standards are based on the following documents of the PARCC Technology Architecture Plan:

> PARCC Technology Architecture Summary
> Interoperability Standards Review
> Technology Standards and Protocol Options

Applicable Standards:

PARCC assessments, computer-based assessment delivery platforms, and other technology components must be designed to utilize these standards, and to pass conformance testing for their operationalization as required by PARCC.

Required standards for the 2013 Item Tryouts, 2014 Field Test, and 2014-2015 Operational Assessment have not been finalized, so the following list may yet change. However, Contractors should be prepared to be conformant with the following technology and interoperability standards. Not all standards apply to all technical components, so Contractors will need to establish specific final interoperability plans with PARCC prior to starting development work.

INTERNET LAYER INTERFACE/PROTOCOL STANDARDS

- Secure Sockets Layer – SSL (v3.0)
- Transport Layer Security – TLS (v1.2)
- Hypertext Transfer Protocol – HTTP (v1.1)
- Representational State Transfer – REST
- Simple Object Access Protocol – SOAP (V1.2)
- Web Services Interoperability Basic Profile WSI-BP (V2.0)
- Simple Network Management Protocol – SNMP (v3)

- Syslog (RFC5424)
- Web Services for Remote Portlets – WSRP (v2.0)

APPLICATION LAYER INTERFACE/PROTOCOL STANDARDS
- Learning Registry v0.5x.x
- Schools Interoperability Framework – SIF (v3.0)
- Accessible Portable Item Protocol – APIP (v1.0) Content Packaging (v1.2)

DATA/DATA MODEL STANDARDS
- Activity Streams v1.0
- APIP (v1.0) Question and Test Interoperability – QTI (v2.1)
- APIP (v1.0) Personal Needs Profile – PNP (v2.0)
- CCSSO-NGA Common Core State Standards Identifiers
- Common Education Data Standards – CEDS (v2.0)
- Common Event Expression – CEE (v1.0a)
- Dublin Core Metadata Initiative DCMI Metadata Terms
- Dublin Core Education Application Porfile (DC-ED)
- Granular Identifiers and Metadata for Common Core State Standards
- Learning Object Metadata (IEEE-LOM 1484.12.1-2002)
- Learning Registry Paradata (v1.0)
- Learning Resources Metadata Initiative (v1.0)

LANGUAGE STANDARDS
- Hypertext Markup Language – HTML5 – Data/Markup Language
- ECMAScript (ECMA-262) – Data/Scripting Language
- JavaScript Object Notation – JSON (RFC4627)
- eXtensible Markup Language – XML (XML Schema 1.1)
- Resource Description Format – RDF (1.0)

MISCELLANEOUS STANDARDS
- Security Assertion Markup Language – SAML (v2.0) – Interface/XML Framework
- Open Standard for Authentication – OAuth (v2.0)